Accessing the SunEE lab Remotely

Installing Cygwin/X

Cygwin is a Unix-like environment for Windows. It comes with a installer program that automates the install process. Cygwin/X provides the ability to run graphical applications and more importantly share applications between Unix machines. You can find detailed instructions on how to install it at:

http://x.cygwin.com/docs/ug/setup-cygwin-x-installing.html

The Cygwin/X installer will give you the option of installing icons on your desktop or in the Start Menu. Once Cygwin/X is installed it should provide you with an icon that looks like this: and has the name Cygwin Bash Shell.

Installing PuTTY

Before we get started go to http://ieee.uwaterloo.ca/clients/ and choose a computer from the list of "ECE Unix clients available to students". The table shows the number of users currently connected to each machine and its current (CPU) load. For this tutorial I'm choosing ampere.

Go to the PuTTY Download Page located at this URL:
http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Download the file named putty.exe. It is the entire application and doesn't require installing. You could run it from your desktop, if you'd like.

When you load PuTTY you will see the following screen. The PuTTY user interface can be confusing at first. The "Session" applies to all the configuration settings, not just the HostName and Port.

Type ampere.uwaterloo.ca into Host Name and choose SSH as the Protocol. The Port will automatically be set to 22.
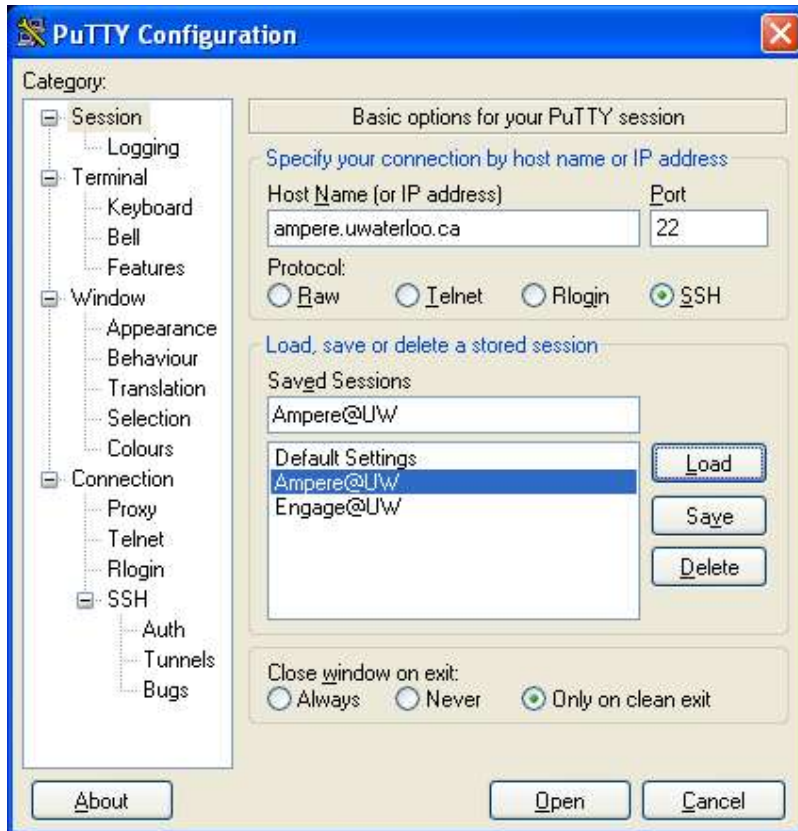
Under the category frame choose Connection->SSH->Tunnels. We are going to establish an SSH Tunnel so that you can access ports on ampere not normally available to the Internet.

Check the Enable X11 forwarding box and enter 127.0.0.1:0.0 as your X display location. (The IP address 127.0.0.1 always points to the current machine. The :0.0 portion represents the X server display port.)
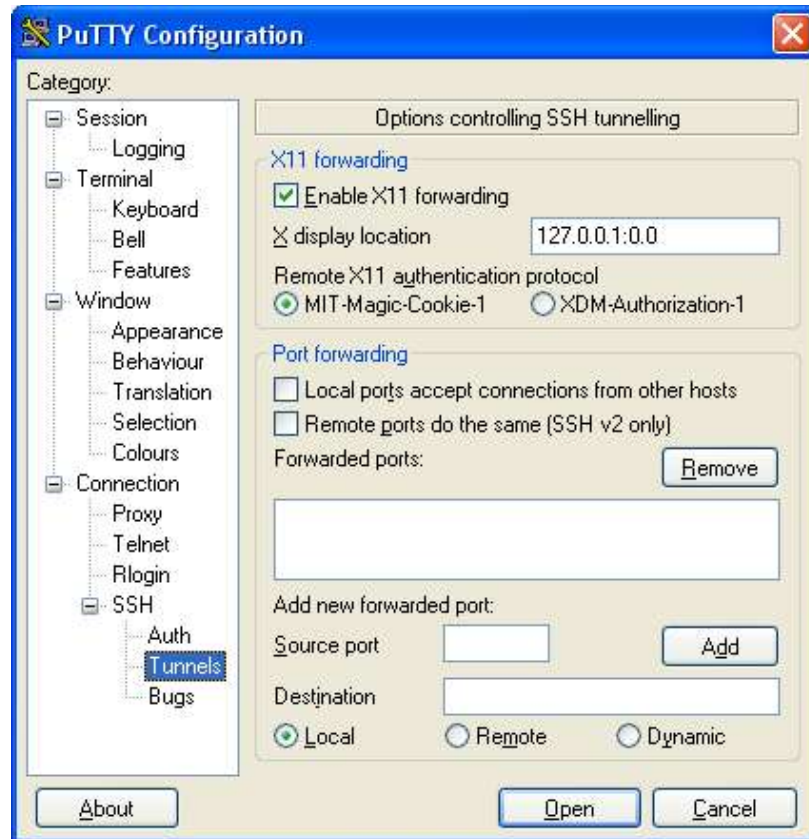
Go back to the Session category and enter a name, such as Ampere@UW, in the Saved Sessions box. Then click save to save the current session configuration.

From now on, you may load these settings by selecting Ampere@UW and clicking the Load button.

At this point, you may click the Open button to open a connection to ampere.uwaterloo.ca. It will open a black terminal window and ask you for your login and password. By default your password is your student ID.

Using PuTTY and X/Cygwin

Run Cygwin by clicking on "Cygwin Bash Shell". At the $ prompt type:

Xwin –multiwindow

If you're security conscious like me and run your computer in non-administrator mode then you may receive a message saying that it cannot open the log file. In that case do:

Xwin –logfile ~/XWin.log –multiwindow

You should see a black X appear in your System Tray in the bottom right corner of the screen.

Use PuTTY and the instructions above to log into one of the SunEE Unix machines. If you type:

> echo $DISPLAY

It should response with "localhost:10.0". The number may be different.

As a test type xterm and hit enter. This should bring up an xterm window as shown in the picture below.

Congratulations, you may now run applications on the Unix workstation and have them appear on your desktop's display.